

菊科裸菀属的分类研究

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SYSTEMATIC NOTES ON THE GENUS MIYAMAYOMENA KITAM. (COMPOSITAE)

Chen Yi-ling

裸菀属 *Miyamayomena* Kitam. 是北村四郎¹⁾ (1937) 从马兰属 *Kalimeris* Cass. (*Asteromaea* Bl.) 分出的一个小属, 隶属于菊科紫菀族 Trib. *Astereae* Cass. 紫菀亚族 *Asterinae* O. Hoffm., 本属发表时, 曾取名为 *Gymnaster* Kitam.。主要以瘦果顶端具狭环状边缘而无冠毛, 与其糙毛状或膜片状短冠毛的马兰属相区别。北村四郎为此属已知的4个种设立了两个组, 即 Sect. *Homolepis* Kitam. 及 Sect. *Crassifolium* Kitam.。前者的头状花序具2层等长或近等长的总苞片, 瘦果倒卵圆形, 扁平, 无显明的肋, 花柱分枝, 短而具披针形附片, 而后者的总苞片3—4层, 覆瓦状排列, 瘦果稍扁, 边缘及两面均有显明的肋, 花柱分枝长而有三角形附片。两者在花期上也各异, 前者的花期是春季, 而后者是秋季。

近期, 北村四郎²⁾ (1982) 发现在裸菀属建立之前, 在涡轮毛藻类的裸鞭毛藻科 *Gymnosclerotaceae* 中早已有与其同一的有效属名 *Gymnaster* Schütt, *Neptunia* 1: 423. 1891. 存在, 本属原有的属名, 不能继续沿用, 因而撰文将其原来发表的属名, 重新更改为新称, 即 *Miyamayomena* Kitam., 同时对本属中原有的组和种名也作了相应的改动。

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林镕教授³⁾ (1985) 在中国植物志第七十四卷中, 根据狭义紫菀属的观点, 将张肇騫 (1935) 发表的紫菀属 *Aster* L. 两个种, 即 *A. angustifolius* Chang 和 *A. simplex* Chang 分别组合列于裸菀属中, 使本属的成员增加至 5 种及 1 亚种。基于上述的理由, 有必要对上述的种的名称作相应的更改, 即 *Miyamayomena angustifolia* (Chang) Y. L. Chen 和 *M. simplex* (Chang) Y. L. Chen。

北村四郎依据本属瘦果及总苞片的特征而设立的两个组是比较自然的。然而他把瘦果扁平, 而具不显明肋的我国产的 *M. piccolii* (Hook. f.) Kitam. 置于 Sect. *Crassifolium* Kitam. 中是与该组的特征不尽相符, 此种总苞片虽与该组的特征相同。此外, 本属中的 *M. angustifolia* (Chang) Y. L. Chen 的总苞和瘦果与 *M. koraiensis* (Nakai) Kitam. 十分近似, 即总苞片 3—4 层; 瘦果具棱或稍扁, 边缘及两面具显明的肋, 应列于同一个组, 即 Sect. *Crassifolium* Kitam.。与此相反, *M. simplex* (Chang) Y. L. Chen 则与 *M. piccolii* (Hook. f.) Kitam. 有较密切的亲缘。这两种在总苞构造虽然接近于 Sect. *Crassifolium* Kitam., 但瘦果扁平而无显明的肋, 列于裸菀属任何已知的组都是不适宜的。因此, 在本文中, 为这两种建立一个新组, 即 Sect. *Heterolepis* Ling et Y. L. Chen 似乎是比较适宜的。同时, 对于属和组的特征有必要作相应的补充。

Miyamayomena Kitam. in Act. Phytotax. Geobot. 33: 409. 1982. — *Gymnaster* Kitam. in Mem. Coll. Sci. Kyoto Univ. ser. B, 13: 301. 1937, non Schütt, 1891; Tamamsch., Fl. URSS 25: 58. 1959; Ling, Fl. Reip. Pop. Sin. 74: 94. 1985.

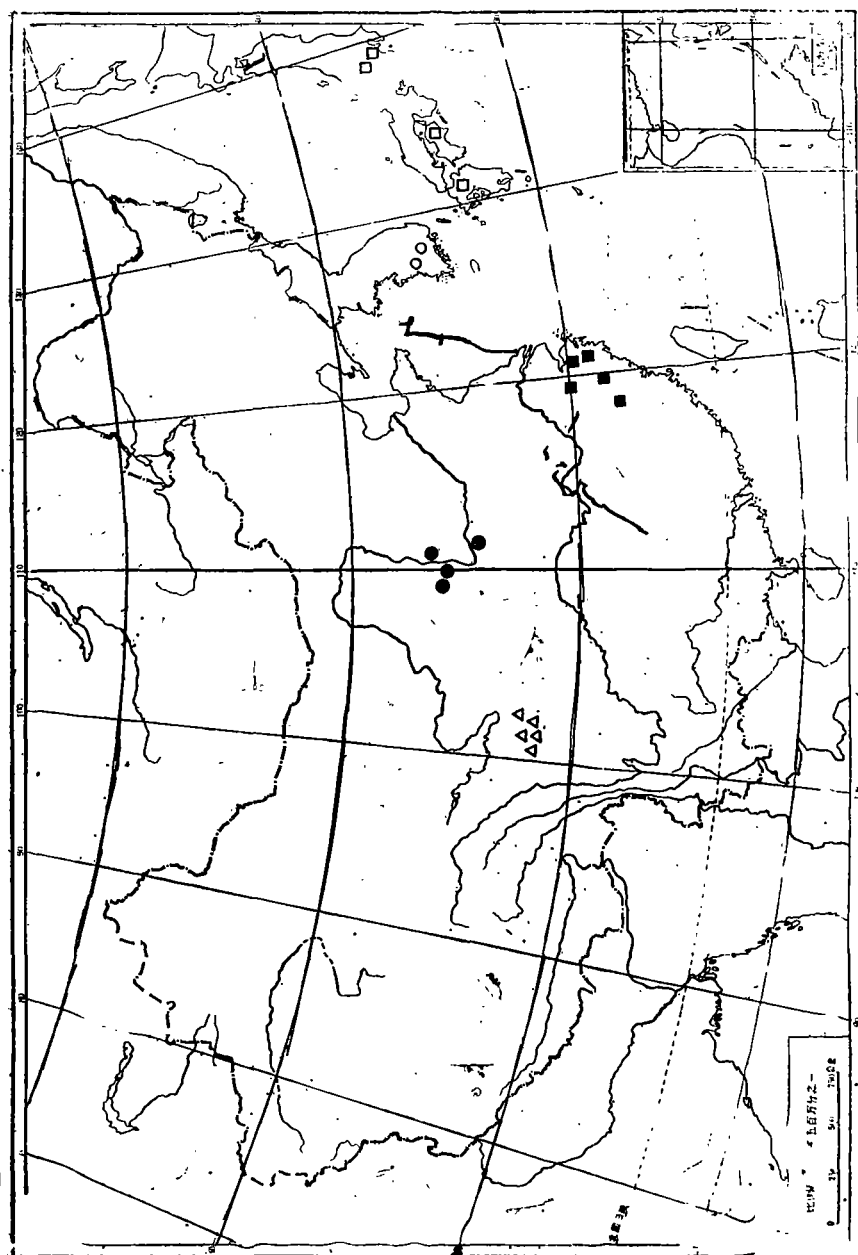
Descr. addenda: Involucri phyllaria aut 2-seriales, subaequilongae; acuminatae, aut 3—5-seriales, exteriores breviores, laxe imbricatae, extimae superne vel dorso herbaceae, ceterum submembranaceae, omnino obtusae vel rotundatae; achaenia compressa vel subquadriangulatae, margine facieque costata vel distincte costata. Typus generis: *M. savatieri* (Makino) Kitam. [= *Gymnaster savatieri* (Makino) Kitam.]

Species 5, regionis Sino-Japonicae incolae.

5 种, 分布于中国、日本、朝鲜。我国有 3 种, 分布于东部、中部至西部 (见图)。

本属与马兰属 *Kalimesis* Cass. 比较接近, 前人常列于该属中, 但以

裸菟属的地理分布图



图例：日本裸菟：□；裸菟：●；朝鲜裸菟：△；朝鲜裸菟：○；裸叶裸菟：■。

瘦果上端有狭胼胝状边缘而无冠毛与之相区别。

本属依据瘦果及总苞片特征可以划出为下列3组：

分 组、种 检 索 表

1. 总苞片2层，等长或近等长，渐尖；瘦果扁平，倒卵状长圆形，边缘及两面有不显明的肋或无肋（裸菟组 Sect. *Miyawayomena*)
..... 1. 日本裸菟 *M. savatieri* (Makino) Kitam.
1. 总苞片3—4 (5) 层，外层较短，疏覆瓦状排列，顶端钝或圆形；瘦果倒卵形，舌状花管部有腺毛。
 2. 瘦果扁平，边缘及两面具不显明的肋；叶纸质；茎圆柱形，无棱（异苞组 Sect. *Heterolepis*)
 3. 头状花序多数，排成疏散伞房状；总苞长7—8毫米，宽12毫米；叶长圆状倒披针形，边缘具粗锯齿
..... 2. 裸菟 *M. piccolii* (Hook. f.) Kitam.
 3. 头状花序单生于茎端；总苞长约6毫米、宽约10毫米；叶长圆状披针形至线形，全缘
..... 3. 四川裸菟 *M. simplex* (Chang) Y. L. Chen
 2. 瘦果稍扁或具棱，边缘及两面具显明的肋；叶革质，边缘常内卷，茎具棱（厚叶组 Sect. *Crassifolium*)
 4. 植株常具匍匐枝；叶披针形，边缘具疏细齿及硬缘毛；总苞片钝或圆形，边缘膜质而有缘毛；瘦果较扁，除边缘外，有1—2条显明的肋
..... 4. 朝鲜裸菟 *M. koraiensis* (Nakai) Kitam.
 4. 植株无匍匐枝；叶线状披针形至线形，中部以上边缘有疏细齿而无硬缘毛；总苞片钝或略尖，背面有桔黄色细脉；瘦果呈多棱形，具4—5条显明的肋
..... 5. 狭叶裸菟 *M. angustifolia* (Chang) Y. L. Chen

I. 裸菟组 Sect. *Miyawayomena*——*Gymnaster* sect. *Homolepis*
Kitam. in Mem. Coll. Sci. Kyoto Univ. ser. B, 13: 301. 1937.

瘦果扁平，倒卵状长圆形，边缘及两面具不显明的肋；总苞片2层，等长或近等长，顶端渐尖。组的模式：日本裸菟 *M. savatieri* (Makino) Kitam. 1种及1亚种。

1. 日本裸菀

Miyamayomena savatieri (Makino) Kitam. in Act. Phytotax. Geobot. 33: 409. 1982. — *Asteromaea savatieri* Makino in Tokyo Bot. Mag. 82: 59. 1898. — *Boltonia savatieri* Makino in Tokyo Bot. Mag. 8: 174. 1894. — *B. cantoniensis* Franch. et Sav., Enum. Pl. Jap. 2: 398. 1879, non DC. — *Aster savatieri* Makino in Tokyo Bot. Mag. 12: 58. 1898. — *Gymnaster savatieri* (Makino) Kitam. in Mem. Coll. Sci. Kyoto Univ. ser. B. 13: 301. 1937; Таманш., Fl. URSS 25: 58. 1959.

日本: 相模, 箱根山, 北村四郎 178; 东京、武藏, 无号。分布本洲, 四国和九州。据 Таманшян 记载, 本种在苏联高加索经已归化。苏联植物志 (Фл. СССР 25: 58. 1959) 所记载的, 瘦果无冠毛, 而图版上的瘦果有短冠毛。我们所看到标本的瘦果均无冠毛。本种另有 1 亚种。

1_b. 矮小裸菀

subsp. *pygmaea* (Makino ex Kitam.) Kitam. l. c. 33: 409. 1982. — *Asteromaea pygmaea* (Makino) Kitam. in Act. Phytotax. Geobot. 5: 243. 1936. — *Aster savatieri* Makino var. *pygmaeae* Makino in Somoku-Dusetsu's ed. 4: 1101. 1913, nom. nud. — *Gymnaster pygmaea* (Makino) Kitam. in Mem. Coll. Sci. Kyoto Univ. ser. B, 13: 302. 1937.

产日本 (本州、四国)。据文献载, 它以植株矮小, 高 8—13 厘米; 头状花序较小, 总苞径 4—8 毫米, 与原亚种相区别。

II. 异苞组 Sect. *Heterolepis* Ling et Y. L. Chen, sect. nov.

Achaenia compressa, obvoidea, margine facieque indistincte costata; involucri phyllaria 3—5-seriales, exteriores gradatim breviores, laxe imbricatae, apice obtusae vel retundatae. Typus sectionis; *M. piccolii* (Hook. f.) Kitam., Species 2, Sinicae.

瘦果扁平, 倒卵圆形, 边缘及两面有不显明的肋; 总苞片 3—5 层, 外层渐短, 疏覆瓦状排列, 顶端钝或圆形。组的模式: 裸菀 *M. piccolii* (Hook. f.) Kitam., 2 种, 特产我国。

2. 裸菀

Miyamayomena piccolii (Hook. f.) Kitam. in Act. Phytotax. Geobot. 33: 409. 1982. — *Aster piccolii* Hook. f. in Cur-

tis's Bot. Mag. Tab. 7669. 1899. — *Asteromaea piccolii* (Hook. f.) Hand.-Mazz. in Act. Hort. Gothob. 12: 225. 1938, S. Y. Hu in Quart. Journ. Taiwan Mus. 18: 308. 1965. — *Gymnaster piccolii* (Hook. f.) Kitam. in Mem. Coll. Sci. Kyoto Univ. ser. B. 13: 303. 1937, in adnot.; Icon. Cormoph. Sin. 4: 418, fig. 6249, 1975; Ling Fl. Reip. Pop. Sin. 74: 95. 1985.

陕西: 黄陵, 黄龙山, 傅坤俊 3396; 山西: 隰县, 王作宾 3248; 河南: 洛宁, 师家岭, 黎春畴 501。生于山坡草地, 海拔 950—1700 米。

总苞近半球形, 总苞片 4—5 层, 外层卵状长圆形, 上部草质, 内层倒卵状长圆形, 钝或圆形, 边缘宽膜质, 有缘毛, 花柱分枝附片三角形, 瘦果极扁, 除边肋外, 两面无肋或有 1 不显明的肋, 长 2.5—(3) 毫米, 宽 1.5 毫米; 舌状花管部及管状花被腺状微毛。模式标本采自陕西, 在英国邱园有栽培。此种据原始记载, 头状花序具 2 层舌状花, 曾被 Hooker f. 认为紫菀属 *Hisutsua* 组的 1 种。北村四郎将其列于本属的 *Sect. Crassifolium* Kitam., 但瘦果的特征与该组有明显的不同, 故改隶于本组。

3. 四川裸菀

Miyamayomenaa simplex (Chang) Y. L. Chen, nom. nov. — *Aster simplex* Chang in Sinensia 6: 541. 1935, non Willd. 1809. — *Asteromaea simplex* (Chang) Hand.-Mazz. in Act. Hort. Gothob. 12: 225. 1938; S. Y. Hu in Quart. Journ. Taiwan Mus. 18: 309. 1965. — *Gymnaster simplex* (Chang) Ling, Fl. Reip. Pop. Sin. 74: 95. 1985, syn. nov.

Descr. addenda: Herbae perennis rhizomate repente crasso radicibus multis elongatis. Caules plures, 10—30cm alti, basi 1—2.5mm crassi, adscentes, simplex vel ad medium 2—5 ramosi, ramis elongatis monocephalis. Folia caulina oblongo-lanceolata, 1.5—4cm longa, 3—8mm lata. Involucri phyllaria 3—4-seriales, exteriores minores, oblongae, superne herbaceae, interiores saepe omnino submembranaceae. Achaenia obovidea, compressa, vix 2mm longa, 1mm lata, apice constricta, annulo minuto coronata, margine indistincte costata, facie plana vel ventro vix angulata.

四川: 大金, 李馨 78001、78624; 马尔康, 李馨 23376、71752; 米亚罗、何荻平 45199、45333; 小金, 张秀实, 任有铎 5996, 生于海拔

2650—3000 米的山坡草地或沟边。模式标本采自康定附近。

据原始记载及模式，茎矮小而不分枝，具 1 顶生头状花序。但我们的标本茎自中部常有 2—5 分枝，故作如上的补充描述。

Ⅲ. 厚叶组 *Sect. Crassifolium* Kitam. in Act. Phytotax. Geobot. 33: 409. 1982. — *Gymnaster sect. Crassifolium* Kitam. 1. c. 303. 1937.

瘦果具棱或稍扁，倒披针状长圆形，边肋及两面有显明的肋；总苞片 3—4 层，外层短，疏覆瓦状排列，顶端钝或圆形；花柱分枝长而有三角形附片。组的模式：朝鲜裸菀 *M. koraiensis* (Nakai) Kitam. 2 种，分布于中国和朝鲜。

4. 朝鲜裸菀

Miyamayomena koraiensis (Nakai) Kitam in Act. Phytotax. Geobot. 33: 409. 1982. — *Aster koraiensis* Nakai in Tokyo Bot. Mag. 33: 186. 1909. — *Asteromaea koraiensis* (Nakai) Kitam. in Act. Phytotax. Geobot. 2: 37. 1933. — *Gymnaster koraiensis* (Nakai) Kitam. in Mem. Coll. Sci. Kyoto Univ. ser. B. 13: 303. 1937.

产朝鲜。标本未见，但据原始记载及附图，此种瘦果倒披针状长圆形，略扁，除边肋外，两面各有 1—2 条显明的肋；总苞片 3—4 层，顶端钝或圆形，边缘干膜质，被缘毛；叶近革质，边缘内卷，被疏硬毛；植株具 1—2 匍匐枝，容易识别。

5. 狭叶裸菀

Miyamayomena angustifolia (Chang) Y. L. Chen, nom. nov. — *Aster angustifolius* Chang in Bull. Fan Mem. Inst. Biol. Bot. 43: 1935, non Lindl. ex Royle (Ill. Bot. Himal. 251, t. 58. 1839.) — *Asteromaea angustifolia* (Chang) Hand.-Mazz. in Act. Hort. Gothob. 12: 225. 1938. — *Kalimeris angustifolia* (Chang) S. Y. Hu in Quart. Journ. Taiwan Mus. 20: 10. 1967. — *Gymnaster angustifolius* (Chang) Ling, Fl. Reip. Pop. 74: 97. 1985, syn. nov. — *Aster fabri* Hook. f. in sched.

浙江：昌化，金坑，贺肾育 26584；丽水，云峰、章绍尧 6315；天台山，浙江资源队 28346；宁波，E. Fabre 69 (据照片)；福建 (北部)：寿宁，秦仁昌 2266 (同模式)。生于山谷、溪岸或河滩地，海拔 560 米。

胡秀英 (1967) 曾认为此种瘦果冠毛缺如而具胼胝状环, 而将其列于马兰属之中, 这显然是不适宜的。本种外形与上种近似, 但叶较小, 狭披针形至线状披针形, 中部以上边缘有疏细齿而无硬毛, 瘦果长 2.8 毫米, 宽约 1 毫米, 呈四棱形, 具 4—5 条显明的肋等, 与后者不同, 两种的地理分布也迥然有别。

ABSTRACT

Miyamayomena, a small genus of Compositae, belonging to the tribe *Astereae* Cass., Subtribe *Asterinae* O. Hoffm. was separated from *Kalimeris* Cass. (*Asteromaea* Bl.), based on *M. savatieri* (Makino) Kitam. by S. Kitamura in 1937. It is characterized by the complete absence of pappus, and thus distinguished from preceding genus with shortly pappus, in the pappus absent from all florets.

Gymnaster Kitam. had been named for the genus when it was published. Four species in the genus had also been divided into respectively sections, e. g. Sect. *Homolepis* Kitam. and Sect. *Crassifolium* Kitam. according to the involucre bracts and the ribbed achenes.

Miyamayomena, the correct name of the genus was remaned by Kitamura in 1982, because there was a valid name, *Gymnaster* Schütt which had been made in the family *Gymnosclerodaceae* previously. Two Chinese *Aster* described by Chang in 1935: *Aster angustifolius* Chang and *A. simplex* Chang which had been transfered to *Gymnaster* Kitam. by Ling Young, should have to be renamed as *M. angustilolia* (Chang) Y. L. Chen and *M. simplex* (Chang) Y. L. Chen.

On the basis of the achenial and involucre characters, Kitamura's inclusion of the Chinese species *M. piccolii* (Hook. f.) Kitam with inconspicuously ribbed achenes in Sect. *Crassifolium* Kitam. is shown to be incorrect. *M. angustifolia* (Chang) Y. L. Chen is very similar to *M. koraiensis* (Nakai) Kitam. in the involucre bracts and distinctly ribbed achenes. Both of them should be included to the same section, e. g.

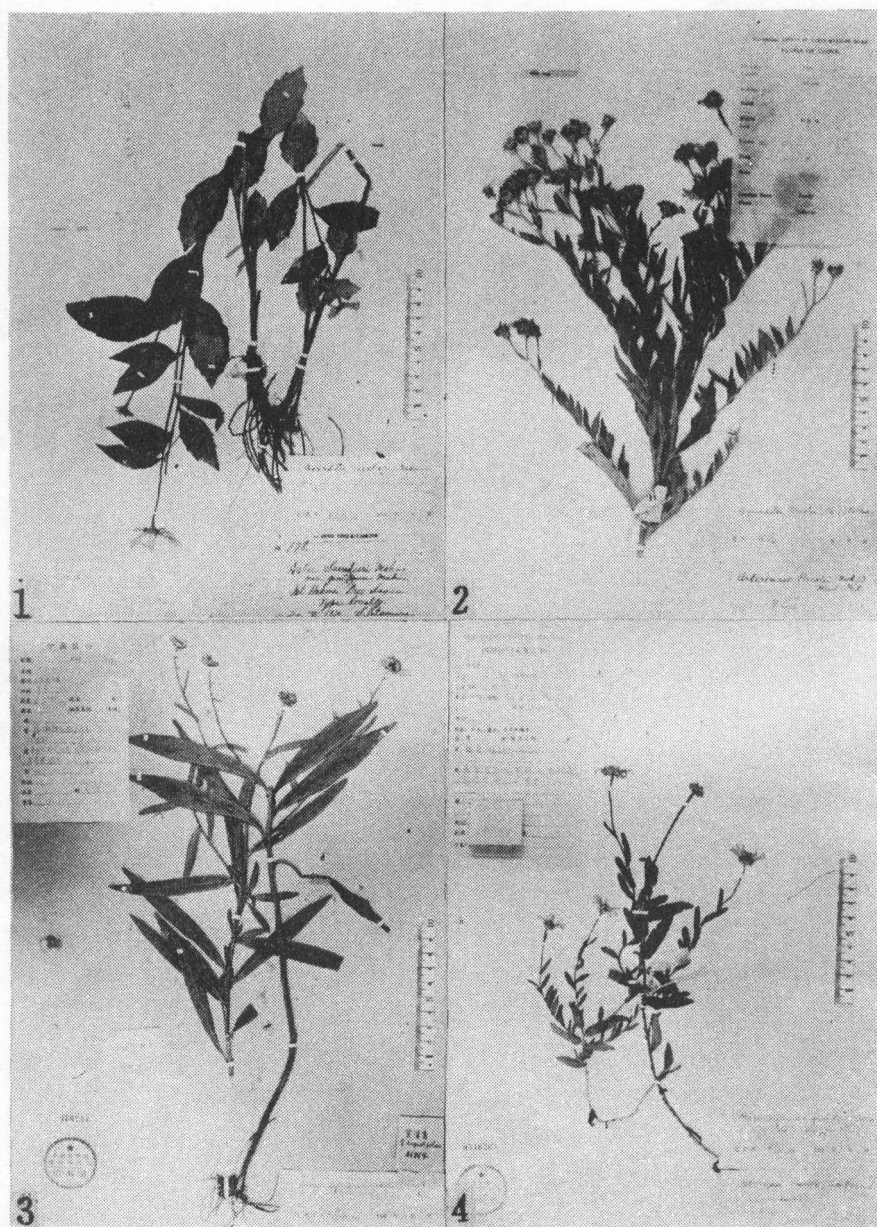
Sect. *Crassifolium* Kitam. In opposition to those species, *M. simplex* (Chang) Y. L. Chen is closely allied to *M. piccoli* (Hook. f.) Kitam. in having inconspicuously ribbed achenes. Both of them is similar to the sect. *Crassifolium* Kitam. in the structure of the involucre bracts, but the compressed and inconspicuously ribbed achenes is different from the later. However, they are not suitable to include into any sections known in the genus. So that, Sect. *Heterolepis* Ling et Y. L. Chen, as a new section is considerable to be set up for them. In addition, to make an emendation of the genus and sections seems to be necessary.

Five species and one subspecies, 3 in China, and 1, *M. savatieri* (Makino) Kitam., 1 subspecies *M. savatieri* subsp. *pygmaea* (Makino ex Kitam.) Kitam. endemic to Japan, 1, *M. koraiensis* (Nakai) Kitam. endemic to Korea.

Three sections are described, 1 section is described as new, 2 new names are published, a key to sections and species is provided, and distribution of the genus is also shown on the map.

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- [3] Ling Young (1985). Fl. Reipl. Pop. Sin. 74, 94—97.
- [4] Nakai, T. (1911) Fl. Koreana 2: 8. Journ. Coll. Sci Imper. Univ. Tokyo 31: 8.
- [5] Hooker f. (1899) *Aster piccolii* Hook. f., Curtis's Bot. Mag. 125, Tab. 7669.



1. 日本裸菟 *Miyamayomena savatieri*(Makino) Kitam.(S.Kilamwva 178);
2. 裸菟 *M. piccolii*(Hook.f.) Kitam.(傅坤俊 3396);
3. 狭叶裸菟 *M. angustifolia*(Chang) Y.L.Chen(贺贤育);
4. 四川裸菟 *M. simplex* (Chang) Y.L.Chen(李蓉 71752)